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THE BOSTON
Medical and Surgical
JOURNAL

OFFICIAL ORGAN of THE MASSACHUSETTS MEDICAL SOCIETY and of THE NEW ENGLAND SURGICAL SOCIETY

$6 per Annum. 25c per copy
Vol. CLXXXIV, No. 2

THURSDAY, JANUARY 13, 1921

Published weekly in Boston,
at 126 Massachusetts Avenue

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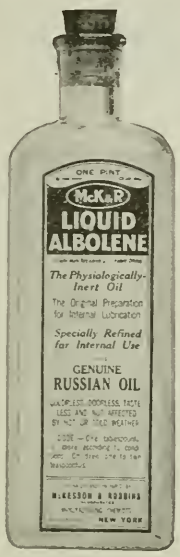

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NUTRITION INSTITUTE AT ROCHESTER, N. Y.

Through the interest of members of the Board of Education who had visited the nutrition clinics in Chicago, an institute was organized by Dr. William R. P. Emerson, under the auspices of the Tuberculosis Association of Rochester and Monroe County. Representatives were invited from twenty-six tuberculosis associations and from the child helping organizations of Syracuse, Utica and Albany. One hundred students, including 20 physicians, were in attendance,, requiring morning and afternoon sessions. The examination of children showed 36% malnourished in one of the most well-to-do sections and only 23% in a school of children from poorer homes of foreign families. Dr. James A. Murphy, chief medical inspector for Washington, D. C.; Dr. Joseph C. Palmer, medical inspector, Syracuse, N. Y., and Miss M. Grace Osborne, executive secretary of the National Tuberculosis Association, were present for the course, as well as Professor John R. Murlin, director of the Department of Vital Economics, University of Rochester and late director of the Division of Food and Nutrition, Medical Department, U. S. A. Dr. Murphy reported on studies in Washington, showing a larger percentage of malnutrition among white than among colored children in that city.

Chicago. The regular Fall institute for western students was held at Chicago in connection with the Elizabeth McCormick Memorial Fund, November 1 to 13. A new departure was the establishing of nutrition classes in two of the largest orphanages in the city. In one of these institutions the percentage of malnutrition has been reduced by means of nutrition classes from 22 to 4. Eight classes were organized in the Francis W. Parker School, one of the most important experimental and demonstration schools in America.

Milwaukee. Dr. Emerson also spoke at the Health Center of the Wisconsin Anti-Tuberculosis Association, which is the active headquarters of social work for the entire state.

Fort Wayne. On invitation of the Board of Education, a conference was held with the school authorities and a public meeting for parents and workers in child-helping organizations. Plans are under way for holding a nutrition institute in the city later, or for sending a large

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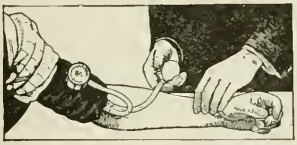

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SPECIAL ATTENTION GIVEN TO WOMEN AND CHILDREN

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(Continued from page iv.)

group of workers to attend the next institute to be held in Chicago.

Dayton. A city-wide nutrition campaign is being planned for. Work has already begun, under the auspices of the National Cash Register Company among its 7,000 employees. Meetings were held on November 16, 17 and 18, with various groups and other social organizations.

TUBERCULOSIS IN BOSTON AND MASSACHUSETTS.

At a meeting of the Boston Tuberculosis Association held recently in Boston, interesting addresses were given by a number of physicians. Colonel Bushnell, who directed tuberculosis work in the Army during the war, emphasized the need of educating mothers to protect their children from receiving infections from the germ of tuberculosis. The tuberculin skin test shows that practically every adult has experienced a tuberculous infection at some time, although seventy per cent. of the population are not aware of it and have never shown any clinical evidence of it. In the campaign against tuberculosis, a great deal can be done by concentrating attention on children, especially upon those shown by the skin test recently to have become infected with tuberculosis, in order that their early infections may not become seriously important in adult life.

The future plans of the Association were outlined by Dr. George S. C. Badger, president of the Association. Dr. Cleaveland Floyd, of the Bacteriological Department of the Harvard Medical School, is to study experimentally the problems of infection of eating utensils; nurses are to be appointed to make observations on patients in various hospitals from the time when the diagnosis of tuberculosis is made to the time when the patients have been transferred to special hospitals; and the Association will make every effort to make itself useful to all Boston physicians and to the public in general in matters pertaining to the care and treatment of tuberculosis patients.

An interesting address was delivered by the Secretary of the Association, Seymour H. Stone, who said in part:

"There has been a steady and rapid decline in the death rate from tuberculosis in our city ever since Dr. Koch discovered the germ in 1882, with the one marked exception of the period during which we were engaged in the

(Continued on page viii.)

A remarkably efficacious remedy in furunculosis

The curative effects of yeast described by physicians and physiological chemists

The successful use of yeast in certain maladies has been demonstrated by careful tests. In leading institutions in New York and Philadelphia the yeast treatment was given in 17 cases of furunculosis.

The tests were carried on under the direction of Philip B. Hawk, Ph.D., by Frank Crozer Knowles, M. D., Martin E. Rehfuss, M. D., and James A. Clarke, M. D., with the collaboration of Olaf Bergeim, Ph.D., H. Rodell Fishback, M. D., Sc.D., Clarence A. Smith, Ph.D., and Robert A. Lichtenthaeler, M. S.

The cases covered such conditions as single large boil; boils a week apart for two months; and periodic boils for years. One patient had several large boils which did not yield to vaccine. After three cakes of yeast daily for two weeks the boils disappeared. A boil started on the leg after yeast was stopped. The yeast treatment was resumed. The boil soon cured.

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The conclusion of Dr. Philip B. Hawk and his associates is: "In furunculosis, yeast is a remarkably efficacious remedy. Its curative action in these cases is no doubt aided by the leukocytosis which is developed."

The usual dosage in these cases was three cakes a day—suspended in water, beef-tea, or orange juice—generally before meals. In some cases, because of the laxative action of the yeast, it was necessary to reduce the dosage.

With patients troubled with gas formation, it was found preferable either to administer yeast between meals, or else to "kill" the yeast by placing it in boiling water for a few minutes. The action of the "killed" yeast proved to be much the same as that of the living yeast.

A full report of this test can be found in the Journal of the A. M. A. for October 13, 1917, under the title: "The Use of Baker's Yeast in Diseases of the Skin and of the Gastro-Intestinal Tract."

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(Continued from page vi.)

Great War, when the rate made a decidedly upward stride. Last year the deaths from tuberculosis, all forms, in Boston, were 1,367, or a rate of 18.29 per 10,000 inhabitants. This is a jump from a death rate of 13 plus per 10,000 inhabitants in the year 1915. This year, however, the year after the signing of the armistice, there has been a decided decline, the rate going down to 15.34 and the deaths from the disease to 1,147.

"The latest developments in the campaign have been along the lines of promoting general public health as a means of building up resistance, as, for instance, nursing in all its branches, —visiting, public health, factory, maternity, baby and school work. Improvement in the work of the health departments has contributed much. The attention paid to the examination of school children, the establishment of dental clinics, nutrition clinics and improvements in the child-labor laws and factory conditions have aided the campaign.

"Perhaps the next step will be to accept the recommendation of the National Tuberculosis Association and the United States Surgeon General that general hospitals should admit tuberculosis patients. One might add to this the recommendation that all dispensaries examine for tuberculosis. This plan, if carried out, would provide for those patients who do not wish to go to a hospital or dispensary designed exclusively for the tuberculous.

"The following named officers and council of the Boston Tuberculosis Association were elected for the ensuing year: President, Dr. George S. C. Badger; vice-president, Dr. James J. Minot; treasurer, George S. Mumford; clerk, Miss Isabel F. Hyams; council, Henry Abrahams, Dr. George S. C. Badger, Dr. Walter C. Bailey, Miss Mary Beard, Dr. Vincent Y. Bowditch, Thomas Brennan, Dr. Arthur N. Broughton, Mrs. Arthur T. Cabot, Dr. Herbert C. Clapp, James N. Clark, Dr. Randall Clifford, Miss Catherine A. Codman, Mrs. Ernest A. Codman, Mrs. Charles A. Cummings, Dr. Robert D. Curtis, Mrs. William Faxon, Dr. Cleaveland Floyd, Dr. John B. Hawes, 2d, Maurice B. Hexter, Stephen W. Holmes, Miss Isabel F. Hyams, Dr. Elliott P. Joslin, Dr. Eugene R. Kelley, Horatio A. Lamb, Dr. George N. Lapham, Rt. Rev. William Lawrence, Dr. Harry Linenthal, Miss Ida Mason, Rev. P. J McCormack, Dr. James J. Minot, George S. Mumford, Mrs. John C. Munro, Dr. Timothy J. Murphy, Dr. John F. O'Brien, Dr. Edward O. Otis, Robert Treat Paine, William H. Pear Miss Julia C. Prendergast, Miss Lilian V. Robbinson, Robert Saltonstall, Henry L. Shattuck, Mrs. Channing C. Simmons, Dr. Arthur K Stone, Mrs. Frederic M. Stone, Dr. Fritz B. Talbot,, Dr. Henry B. Walcott, Dr. Nathaniel K. Wood, Dr. William C. Woodward, Arthur V. Woodworth and Dr. Wade Wright.

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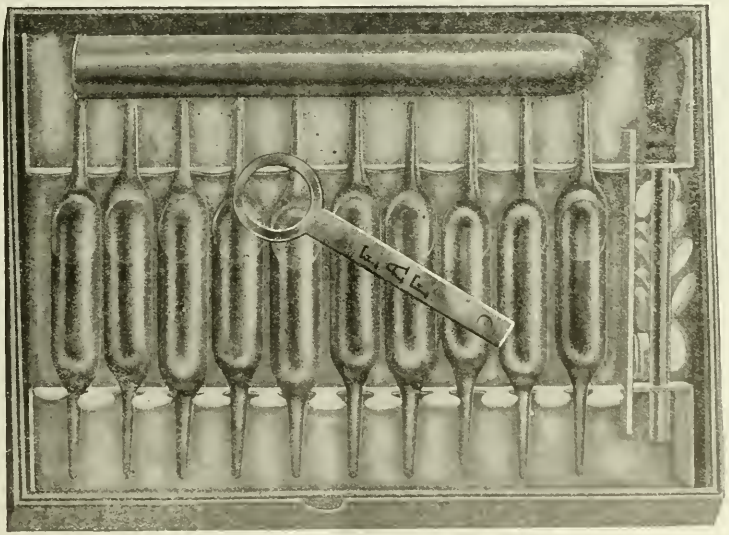

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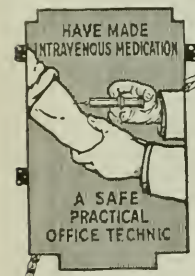

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The Boston Medical and Surgical Journal

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Address

REMARKS MADE AT THE CLOSING SESSION OF THE INTER-ALLIED SANITARY COMMISSION, PARIS.

By Richard P. Strong, M.D., Boston,

General Medical Director, League of Red Cross Societies, Geneva; Professor of Tropical Medicine, Harvard Medical School, Boston.

To an assembly of this nature, the statement will not appear startling (though it may, to some, superfluous), that without the knowledge which the science of preventive medicine has given us, and its application by our medical and sanitary services, the history of the efficiency of the armies of the governments which we represent would undoubtedly have been very different in our recent great war.

When modern scientific hygienic methods are properly carried out, epidemics of infectious diseases (in earlier years often referred to on account of their great severity, as pestilences), no longer decimate armies as they did formerly. Indeed, the glory of preventive medicine in modern times has been in its victories over communicable diseases. The war has given an unusual opportunity for the demonstration of the great progress which has taken place in recent years in the prevention of infectious diseases, and of the excellent results to be obtained when modern sanitary precautions are carefully exercised.

During this recent great conflict, as the reports presented to this Inter-Allied Commission demonstrate, the supervision of water and food supplies and the disposal of refuse of armies was usually looked after with a high degree of efficiency. Gross overcrowding was also generally prevented and widespread and usually efficient action was taken in the allied armies against communicable diseases.

On the other hand, the war has also given some striking examples of the serious results which may follow when, through military exigencies or for other reasons, the enforcement of proper sanitary regulations cannot be carried out. I need only refer, as an example, to the disastrous results which occurred in the army in Serbia in 1915 in connection with the epidemic of typhus, or in the army in Mesopotamia in 1917 in connection with dysentery, typhoid and other preventable diseases.

While influenza during the war has taken its toll, and we cannot upon the whole congratulate ourselves either upon the general enforcement of sanitary measures believed to be of value in the prevention of this disease, or upon the results obtained by their attempted enforcement, it is frightful to contemplate the

loss of life which might have occurred had we been without even the preventive knowledge we already possess regarding this disease. Also, in spite of our successes generally in dealing with hygienic problems in armies, and notwithstanding our modern knowledge of preventive medicine, anyone familiar with the principles of public health, who consults for a moment the civil vital statistics of each of the countries we represent, cannot escape from the conclusion that in spite of the efforts of all existing health organizations, there remains in each country—and largely because proper hygienic measures are not taken—a very large and serious amount of preventable disease and of avoidable disablement, and misery, the result of disease; though obviously this amount is very much greater in some countries than in others. Hence at the conclusion of the war Mr. H. P. Davison and those whom he had associated with him in this movement, felt that the time had come for taking steps of greater magnitude against this great mass of preventable disease throughout the world, and of approaching the problem with a wider vision than had hitherto been done; and with the idea of enlisting the services of multitudes of people in many countries in the prevention of disease, and in securing a more unselfish devotion and more liberal sympathy of the people themselves towards public health in cities, as well as in rural communities, and in obtaining their greater coöperation with the national authorities in health activities.

It further appeared that the time was particularly opportune for the Red Cross societies whose war activities had been completed, to inaugurate this movement and to establish an organization which would devote itself to such public health problems.

"The time has more than come," wrote recently one of our distinguished public health administrators, Sir George Newman, "for taking further steps in the organization of a systematic and ordered attack on the strongholds of preventable disease—particularly that mass of crippling morbidity and invalidism which is undermining the capacity and efficiency of the people—an attack which will depend for its achievement upon a close partnership and coöperation between all branches of medicine, between the medical profession and the public, and between the governing authorities and those who are governed. We cannot continue wisely to rely upon piecemeal effort, divided counsels, and conflicting authorities."

The securing of a closer coöperation between the medical profession and the public, and between the governing authorities and those who are governed by the enlistment of the services of millions of enlightened and responsive people in connection with the prevention of disease throughout the world, is one of the fundamental purposes of the organization which I represent, and it is upon the activities of this organization that I have been asked by our honorable President, Professor Santoliquido, to address you.

The League of Red Cross Societies was organized in May, 1919, following a medical conference held at Cannes, and attended by representatives from Great Britain, France, Italy, Japan and the United States. Thus while a number of our most eminent statesmen were engaged at the Peace Conference in Paris in attempting to formulate a plan for a League of Nations destined to bring about and maintain permanent international peace, a number of our most distinguished scientists were assembled at Cannes endeavoring to organize a league for the improvement of health throughout the world and I need not remind an assembly of this nature that health is also one of the prime necessities of life and must go hand in hand with peace in any country if there is to be contentment or prosperity or progress therein. The Cannes Conference heartily approved of the idea of extending the activities of the Red Cross in times of peace for the prevention of disease and the betterment of the health and general welfare of the people in all countries, and expressed the belief that no other organization was so well prepared to undertake these great responsibilities at the present time as the Red Cross.

The League of the Red Cross Societies is a non-political and non-governmental organization. Its objects are: (1) to encourage and promote in every country in the world the establishment and development of a duly authorized voluntary national Red Cross organization, having as purposes the improvement of health, the prevention of disease, and the mitigation of suffering throughout the world, and to secure the coöperation of such organizations for these purposes; (2) to promote the welfare of mankind by furnishing a medium for bring-

ing within the reach of all the peoples the benefits to be derived from present known facts and new contributions to science and medical knowledge and their application; (3) to furnish a medium for coördinating relief work in case of great national or international calamities.

The headquarters of the League are at present located in Geneva and in connection with its program for the improvement of public health and the prevention of disease, a General Medical Department with a director and a staff and an Inter-allied Advisory Council* have been established as part of its headquarters in Geneva.

This Medical Department was originally planned to comprise the following divisions: Secretary's Office, Division of Medical Information and Publication, Demonstration Laboratory, Hygienic Museum and Library, as well as Divisions of Child Welfare, Nursing, Miscellaneous Communicable Diseases, Tuberculosis, Venereal Diseases, Malaria, Sanitary Engineering, Industrial Hygiene, and Vital Statistics.

The League has also established coöperative relationships with the Office International d'Hygiène Publique, the only governmental international health body in existence prior to the war, and in this connection our president, Professor Santoliquido, also for many years the president of the Office International d'Hygiène Publique itself, has been appointed as Counselor of International Health to the League, in order that the relationship between these two organizations may be as close as possible.

The League of the Red Cross Societies, however, being a voluntary agency, has quite different functions from the Office International d'Hygiène Publique, and obviously it will not attempt to supplant but will endeavor to aid and to coöperate with this and other Government health organizations and relief agencies.

Recognizing that the prevention of disease and the protection of the health of the people is a primary responsibility and function of Government, it will nevertheless be the policy of the League to encourage wise public health legislation and efficient public health administration by all appropriate means. Thus by effectively mobilizing its millions of members of its constituent national organizations—now numbering thirty-one in various parts of the world—with the object of the prevention of unnecessary sickness, misery and death caused by preventable disease, incalculable results in the betterment of the health and general welfare of the people must be obtained. In this way, in which the education of the people is of great importance, the League of Red Cross Societies may also be extremely useful in obtaining better public support for the work of Government health officials.

In this connection the League has already taken steps to secure copies of all important existing laws and all laws which will be published in the future relating to public health in order that it may be thoroughly familiar with the legislation upon this subject in all of the different countries and be in a position to create public sentiment demanding proper health laws where they are most needed.

Accurate and full registration of vital statistics will be especially urged in all countries as constituting a basis upon which definite and permanent improvement of health conditions may be accomplished. Efforts will be made to secure a standardization of the vital statistics of all those countries where adequate registration and notification are not in effect, so that comparable data on important subjects may be available, and standard tables prepared and submitted for modification and adoption by the authorities in such countries.

The League will endeavor to encourage scientific investigations in hygiene and sanitary science, since progress in the domain of public health depends upon the advancement of knowledge and the application of new principles. In this connection, however, it is not the intention of the League at the present time to organize an extensive laboratory force and to establish a large laboratory of its own exclusively for research purposes. Its attitude in general will be to organize and to encourage and stimulate research work in relation to preventive medicine and hygiene in those excellent scientific institutions already established in different parts of

* The members of the Council are: Belgium, Dr. J. Bordet, Director, Pasteur Institute, Brussels; Denmark, Professor T. H. Madsen, State Serum Institute, Copenhagen; France, Professor Emile Roux, Director of the Pasteur Institute, Paris, Professor Albert Calmette, Sub-Director of the Pasteur Institute, Paris, Dr. Leon Bernard, Professor of Hygiene at the University of Paris; Great Britain, Colonel S. Lyle Cummins, C.M.G., C.B., Professor of Pathology, R.A.M.C. College, London, Sir Walter Fletcher, K.B.E., M.D., Sc.D., Secretary, Medical Research Committee, London, Sir George Newman, K.C.B., M.D., Chief Medical Officer, Ministry of Health; Italy, Professor Dr. Guiseppe Bastianelli, Physician and Pathologist, Polyclinic Hospital, Rome, Professor Aldo Castellani, C.M.G., Professor of Tropical Diseases at London School of Tropical Medicine; Japan, Professor Kinnosuke Miura, Imperial University of Tokio; South America, Dr. Carlos Chagas, Director of the Oswald Cruz Institute, Rio de Janeiro; United States, Dr. William H. Welch, Director of the School of Hygiene and Public Health, Johns Hopkins University, Dr. Hermann M. Biggs, Commissioner of Health, New York State; Dr. Simon Flexner, Director of the Rockefeller Institute for Medical Research. Dr. George C. Shattuck is the General Medical Secretary of the League of Red Cross Societies.

the world, and also to attempt to coördinate national efforts in research, particularly with the idea of obtaining more uniform and correct results in medical investigations regarding which different and conflicting results have been obtained by different workers, or different groups of workers in different countries. It will also, where original investigations appear advisable and of an urgent character, appoint from time to time special commissions for such researches to be prosecuted either in permanent laboratories or in the field. Probably one of the greatest services which the League may render mankind will be accomplished by the undertaking of such investigations of a practicable character, the results of which may be applied later on a large scale by governmental health agencies for the benefit of the people at large.

The League also assumes that the establishment of public health laboratories or the provision for laboratory service for every community is an extremely important means of promoting efficient public health administration. Realizing, however, that special training of physicians, both administrative and technical, for public health laboratory work is essential, and that in many countries no provision for such training has been made, it is hoped that there will be established in Europe, preferably in connection with some already existing medical institution, such a laboratory in which a limited number of physicians coming from countries where no such facilities exist, may receive adequate training in public health laboratory work. It is the hope that a number of national Red Cross societies may be prevailed upon to establish a certain number of scholarships each year for physicians to be trained in this manner.

The League believes that the extension of the employment of public health nurses or health visitors should be furthered in every possible manner in all countries, and that standardized educational centers for training such nurses or visitors should be developed. It expects to undertake as soon as practicable efficient propaganda in those countries where trained sick nursing and public health nursing are not as yet developed, and to encourage the establishment of training schools for nurses in such countries. It believes that suitable personnel for instruction both in the care of the sick and public health nursing should be sought and trained, so that such personnel may return subsequently to their own countries qualified to inaugurate and direct movements for the establishment of training schools for nurses. The League will also endeavor, in connection with its constituent societies, to establish a system of scholarships to make it possible for trained nurses to receive the necessary supplementary education to qualify them as public health nurses and as teachers.

With properly trained public health nurses and laboratory diagnosticians, a powerful contribution towards the advancement of public health work in a country will have been accomplished.

The League further believes that educational propaganda has been shown to be the most efficient means for forwarding all forms of health activities, and it therefore will especially urge the general adoption of scientific publicity methods, which include the intelligent use of cinema exhibits, illustrated lectures, and other similar methods of visualizing knowledge. In connection with its educational programme it will also publish a scientific medical journal as well as other scientific and popular literature.

The League believes that the training by thoroughly qualified teachers of school children in all grades in the subjects of personal and general hygiene, and in the inculcation of proper health habits during school life, are essential measures for permanently improving the health and contributing to the welfare of the people.

It believes that special attention should be directed everywhere to the importance of town and city planning, and the proper housing for working men, and suggests that national Red Cross societies promote the erection of buildings to be used as health and community centers in their respective localities.

The League also thoroughly endorses the reports upon child welfare, the control of tuberculosis, malaria and venereal diseases, presented at the Cannes Medical Conference, and urges these programs for adoption in all countries. These reports have been printed by the League and widely circulated, and copies of them are available for any who are interested in these subjects.

Owing to the grave representations presented to the League regarding the wide prevalence of typhus fever in Poland and the danger of its spread westward across Europe, it was decided that the control of this disease should be at once undertaken as an emergency relief measure.

The medical director of the League, after consulting with the Office International d'Hygiène Publique and the British Ministry of Health, recommended that an inter-allied commission be appointed consisting of: General Hugh S. Cumming, U. S. Public Health Service; Dr. George S. Buchanan, British Ministry of Health, and Dr. Aldo Castellani, Italian Navy, all members of this Inter-allied Sanitary Commission; and Dr. Visbecq, Service de Santé, of France, all of whom proceeded to Poland for the purpose of making careful investigations of the medical and sanitary conditions in that country. This commission, upon its return, rendered a report to the League upon the entire sanitary situation, and made recommendations regarding the proper medical and sanitary measures which it considered most advisable to be undertaken.

The League has taken further action in connection with the report of its medical commission and has designated Mr. William C. Boyden (formerly a Harvard overseer) as its commissioner to Poland, and Colonel Henry A. Shaw, M. C., U. S. A., as its medical representative, who with a medical staff are prepared to carry on in connection with the Polish Commissioner an extensive campaign against typhus and other infectious diseases in that country. It is also arranged that Professor S. Burt Wolbach of Harvard University and a staff of seven members, which includes Dr. John L. Todd, Associate Professor of Parasitology at McGill University; Dr. A. Bacot, Entomologist of the Lister Institute, London, and Dr. Frank W. Palfrey, Instructor in Medicine at Harvard University, make thorough investigations regarding the etiology of typhus.

I have endeavored in this statement to point out to you very briefly the general purposes of the Bureau of Public Health of the League of Red Cross Societies, and to touch upon some of the most important lines of activity which it seems at the present time the League may wisely follow. I trust that in this program it will have the heartiest support, not only by the hygienists, but also by the physicians present in this assembly, for as Sir Clifford Allbutt has said recently, "Preventive and curative medicine are but the silver and gold of the two sides of one shield, and education in them is not only the instruction of the apprentice but also the nourishment of the practitioner and the equipment of the pioneer." With the aid of this shield thus welded together, will you not, gentlemen, now that our war activities have ceased, take up this new inter-allied combat against disease throughout the world, and pledge your support to the furtherance of the purposes of this League for the prevention of disease and the mitigation of suffering in the countries you represent?

Original Articles.

SCOLIOSIS.

By Herman W. Marshall, M.D., Boston.

Orthopedists have studied scoliosis exhaustively during the past ten or fifteen years, and as each investigator has followed out special phases there have developed such diverging views that they appear contradictory now when each is considered independently.

According to some persons scoliosis should be considered caused by muscle weakness. Others insist on the essential importance of anatomical variations, wedge-shaped vertebrae, anomalies of intervertebral articular processes, and congenital bony peculiarities. A third group of investigators are inclined to lay greatest stress on remote causes that lead to muscular weakness. An appropriate time has arrived therefore perhaps to reconcile conflicting views.

The common type of acquired scoliosis that comes on gradually in normal appearing, rapidly growing individuals, usually during adolescence will be used to introduce desired topics. Lateral curvatures due to shortness of one leg, to empyema, to torticollis, and to primary lesions of the nervous system will be disregarded to large degree.

Characteristics of a typical case of the kind under consideration include lateral curving of the spine into S shaped form, rotation of the vertebrae, to greater or less extent, increased prominence of one shoulder blade, and one hip, and resultant deformities of bones of the chest and of the vertebrae if the process is protracted and severe enough.

Brief survey of established anatomical facts relating to the spine is necessary as a first step to clear understanding of the problem.

ANATOMY.

The spinal column is made up of a series of vertebrae united into a single flexible support. This is strong enough to support the body, and

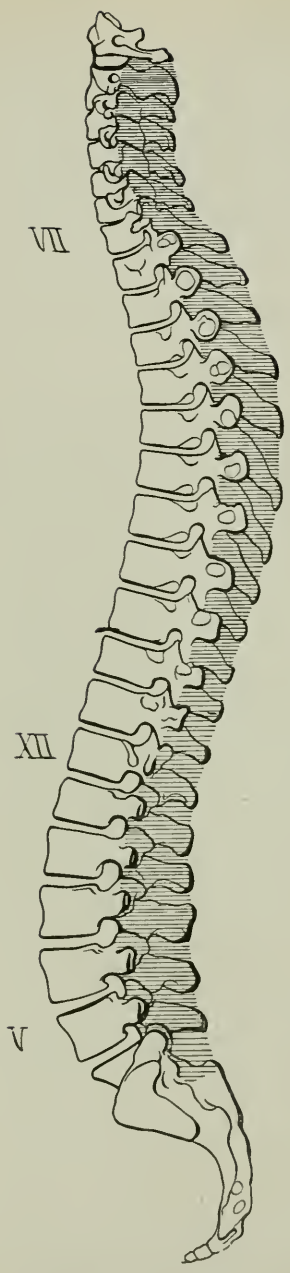

FIG. 1.—Vertebral column, showing location of important intrinsic spinal muscles as shaded area on posterior aspect of the column.

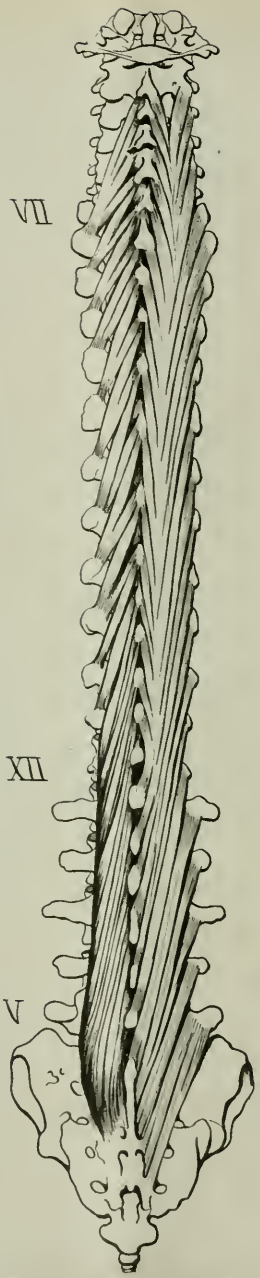

FIG. 2.—Vertebral column, posterior view, showing on right side the deep inner layers of longissimus dorsi muscle attached to lateral processes of lumbar and dorsal vertebrae, but with its important costal attachments omitted. Spinalis dorsi muscle running between lumbar and dorsal spinous processes. On the left side are series of multifidus spinae muscle bundles passing from transverse and articular processes to three or four spinous processes of vertebrae situated just above, and extending in range from sacrum to cervical region.

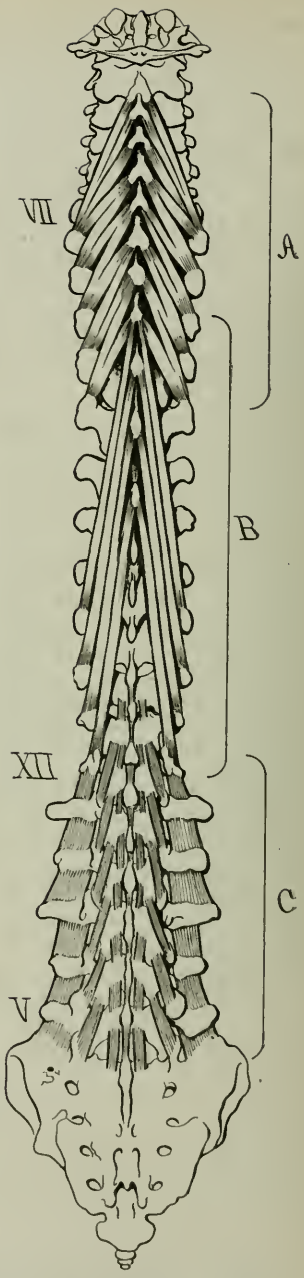

FIG. 3.—Vertebral column, posterior view, showing some deeper intrinsic muscles, intertransversales and interspinales in the lumbar region, semispinalis dorsi in the dorsal region, and multifidus spinae.

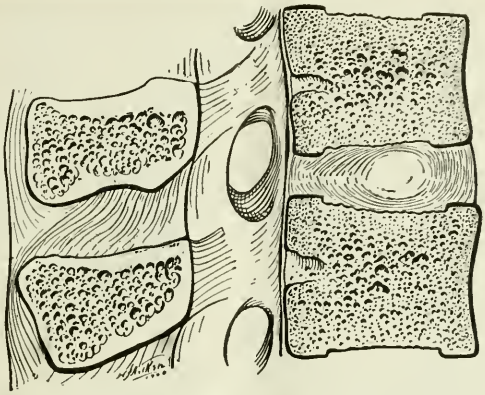

Fig. 4.—Sagittal section of lumbar vertebrae showing the thickness and characteristics of an intervertebral disc, also extreme cancellous nature of vertebral bodies and strong, compact structure of posterior vertebral structures.

yet it can be bent in various directions by strong muscles pulling on it from different parts of the human mechanism through their vertebral attachments.

It serves as base of bony support for head, ribs, arms, and legs, but it should be thought of as a single combination affair composed of a group of bones and of a posterior mass of intrinsic muscles and ligaments as represented in Figures 1, 2, and 3.

Shapes of vertebrae possess significance. The question might be asked what advantages or disadvantages are possessed by existing anatomical developments over simpler design like a column of spool shaped, cylindrical vertebrae bound together with elastic interposed discs. The answer appears in part in the following discussions:

Intervertebral discs are said to make up approximately one-fourth of the length of the spine. Figure 4 shows the structure of a typical intervertebral disc from the lumbar region where discs are well developed. A pulpy center is surrounded by concentric layers of fibro-

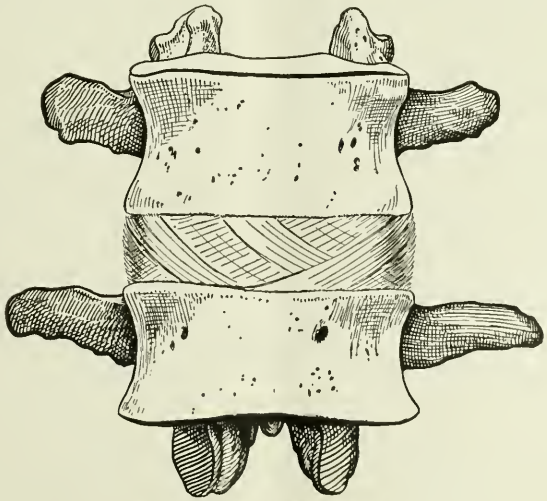

Fig. 5.—Lumbar vertebrae, showing diagonal arrangement of ligamentous fibers which assist in resisting rotary displacements.

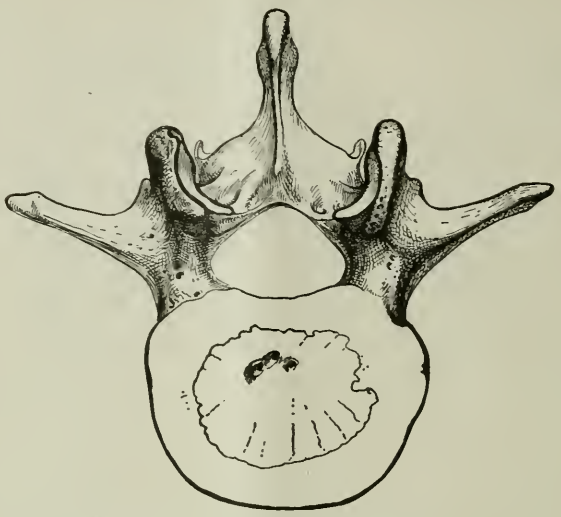

FIG. 6.—Typical lumbar vertebra, superior aspect, showing shapes of articular processes that prevent rotation among vertebrae.

cartilage, and with diagonally arranged ligamentous fibers at the periphery binding together adjacent vertebrae as seen in Figure 5. The contents of an intervertebral space are confined under some tension normally, and when two vertebral bodies are cut apart through the intervening space there is a slight outward bulging of the soft central cartilage. Elasticity of the cartilage permits slight changes in relationships between adjoining bony parts yet the latter are held in fair alignment. Elasticity of the intervertebral discs also helps in pushing back the vertebrae into their previous relationships when outside muscle tension or pressure of body weight is released. In this task intervertebral disks are assisted by elastic ligaments of posterior regions of the spine that have been stretched in spinal movements.

Egg shell thinness of the outer bony layers of cancellous vertebral bodies is very accurately drawn from actual specimens in Fig. 4 and should be compared with compact, strong osseous structures of posterior regions of the vertebral column. It is easy to understand from such a section why vertebral bodies become deformed under pressures or crush readily in severe injuries.

Intervertebral articular processes limit motions of the spine from their shapes and positions. Figure 6 shows the superior aspect of a typical lumbar vertebra with its superior articular processes. The surfaces of the latter are sections of cylinders, and when its body is firmly adherent to the superimposed vertebral body obviously rotary movements between the two vertebrae will be restricted largely by the interlocked processes. Both articular processes can slip up and down, however, in forward or backward bending, or members of the series on one side can be tilted in lateral movements of the lumbar spine. Elasticity in thick intervertebral discs permits slight rotary tendencies, however, which can be increased still further when intervertebral articular processes are partly unlocked in flexed positions of the spine.

Figure 7 shows the superior aspect of a typical dorsal vertebra with its superior articular surfaces set at an angle, but with their plane surfaces so arranged that they do not offer much bony resistance to rotary twisting of adjacent vertebrae.

Intrinsic vertebral muscles are of value in holding together or pulling back separate vertebrae into exactly normal positions after the latter have been subjected to outside strains that pull unevenly and locally on different parts of the column. Each lumbar intervertebral articulation is the point of insertion of slips of multifidus spinae muscles. These slips pass toward the median line to be inserted into spinous processes of the three or four vertebrae just above. Figure 2, left side of median line.

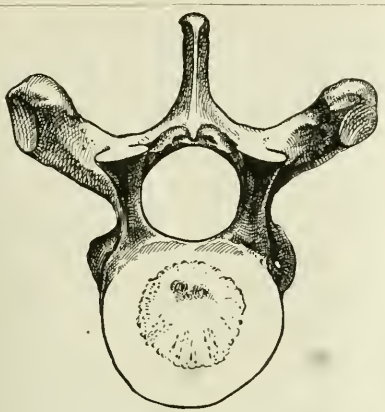

Fig. 7.—Typical dorsal vertebra, superior aspect, showing shapes of articular processes with plane surfaces that do not present much bony obstruction to rotations among vertebrae.

Contractions of these short intrinsic rotators of the spine produce perfect readjustments of intervertebral articulations within their loose capsular ligaments as well as assisting in holding or replacing alignments of spinous processes. There are present in the lumbar region short interspinous muscles that supplement actions of elastic interspinous ligaments while short intertransverse muscles act between adjacent transverse lumbar processes. Figure 3.

Dorsal intrinsic spinal muscles include other members of the series of multifidus spinae, and they pass from transverse processes to spinous processes instead of articular to spinous processes as in the lumbar region. Also there are small variable rotatores spinae passing from transverse processes to laminae beneath overlying multifidus spinae bundles.

Longitudinally arranged intrinsic muscles bridge larger groups of vertebrae, and help to hold straight alignment or straighten lateral bowing of the column. They connect the sacrum with transverse dorsal vertebral processes as well as with transverse and articular lumbar processes by deep inner fibers of longissimus dorsi muscles. Spinalis dorsi muscles connect upper lumbar spinous processes with spinous processes of dorsal vertebrae. (Figure 2.) Semispinalis dorsi muscles run from transverse processes of the lower dorsal vertebrae to spinous processes of the upper dorsal and lower cervical vertebrae. Figure 3.

The combined action of all intrinsic muscles of the spine when acting in normal physiologic manner is to maintain the original bilateral

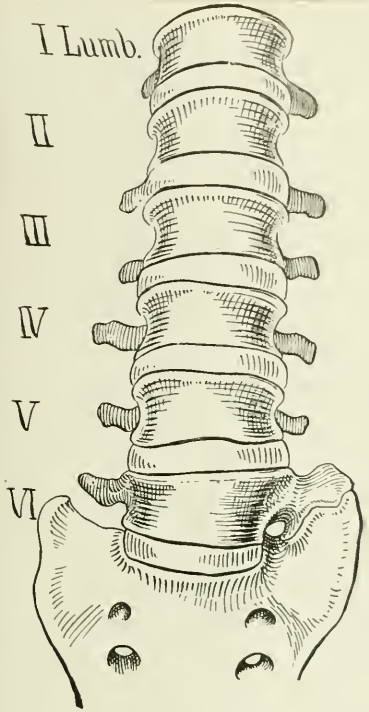

Fig. 8.—Bony variations of the lumbo-sacral spine.

foetal symmetry of the spine as it developed, and with evenly balanced continuous muscle tensions on the two sides of the column.

It will be seen, also, from Figures 1, 2, and 3, how the elastic mass of muscles with their numerous attachments and different directions of pull can control accurately the intimate relationships between component bones of the spine.

VARIATIONS OF VERTEBRAE AND MUSCLES.

Anatomical studies have revealed innumerable bony variations of the spine. There are variations in numbers of cervical, dorsal, lumbar, and sacral vertebrae. There are irregularities of formation in vertebral bodies, transverse processes, laminae, spinous processes, and articular processes. X-rays show that these various anomalies exist frequently in persons who have approximately straight spines of good strength and normal function.

There exist at times unusual wedge shaped vertebrae. The transverse processes of lowest lumbar vertebrae may fuse with the superior surface of the sacrum. Transverse lumbar ver-

tebral processes may vary among different lumbar vertebrae and between the two sides of the same vertebra. Failures in development of laminae and spinous processes result in variable degrees of spina bifida. Articular lumbar processes may vary among different lumbar vertebrae and between the two sides of the same vertebra.

The weight of evidence leaves no doubt as to the great frequency of unilateral character of many bony variations of lower regions of spines. Figure 8 was drawn carefully from an actual specimen and illustrates some of these peculiarities.

Particular emphasis should be laid on the unilateral spinal variations and these are readily understood from embryological developments.

It will be remembered that cartilaginous tissue develops in the foetus about the course of the notochord, and the remnants of the latter are represented perhaps in the pulpy centers of intervertebral discs. This dorsal cartilaginous mass ultimately is split up, then ossified, to make the necessary number of vertebrae, but occasionally a few more or less than the usual number of segments are divided off, and lines of cleavage also may not run squarely across the dorsal cartilaginous mass in all instances. As a result there are some wedge shaped vertebrae. This is possible and the spine may retain straight alignment of its component irregular parts. In other instances apparently, there are congenital structural variations that make it assume more or less deformed positions.

It will be recalled that lateral folds grow up on each side of the neural canal, and finally completely surround it, fusing together where they meet in the median plane of the body posteriorly. In them are formed vertebral processes with their attached intrinsic muscles.

Fusion of these lateral folds is not complete in cases of spina bifida which represent failures of perfect development of lateral folds or neural arches. And unilateral bony variations of the lower region of the spine indicate without doubt some unilateral differences of development between homologous parts on the two sides of the growing foetus. Occasionally these unilateral bony variations are of decided degree and indicate marked original foetal asymmetry.

Intrinsic muscles of the spine of the lumbar region necessarily must show variations roughly corresponding to bony variations. In spines with four lumbar vertebrae there will not be as many muscle attachments provided as in spines with six or seven lumbar vertebrae as has been recorded. Muscles have to accommodate themselves to the unusual conditions if they, too, have not varied precisely as vertebrae have varied. Corresponding with unilateral bony anomalies presumably there are unilateral variations in development of spinal muscles although the latter are difficult to identify.

Anatomists have proved by direct observation that there are numerous variations among the small muscles of the spine, and undoubtedly many more of them have not been recorded. This is so on account of the important physiological power of muscles to hypertrophy and changes their size and strength in response to increased work, whereas bony variations remain relatively fixed and constant, and easy of recognition.

All evidence obtainable favors the view that frequent congenital anomalies of spinal muscles as well as congenital spinal bony anomalies occur, although they do not vary in identical manner.

TIME OF ONSET OF SCOLIOSIS.

Awkward, newly born, flat backed, flat footed infants still face important stages of normal development during which final adjustments of muscles of the body take place with establishment of normal muscle balances.

An infant soon learns to poise its head and move its arms, then to sit up, to creep, to stand, and finally to walk. During this gradual process there are steady hypertrophic physiological changes going on in various muscles that were congenitally smaller and weaker than muscles to which they will be naturally opposed during life. Sooner or later perfect muscle balances for all muscles are attained, and movements made clumsily and inaccurately at first become more skillful and rapid as muscle balances become more and more firmly stabilized. Greater congenital differences between physiologically opposed muscle sets require longer times for final adjustments and equalizations of strengths than do more evenly developed muscle groups. Hence, in part, the variable lengths of time noted before different infants learn to walk and balance themselves.

Physiologically opposed sets of muscles located on each side of the spine, serving to ro-

tate vertebrae and assisting in maintenance of bilateral symmetry, are subject to same developmental laws as govern final adjustments of all other muscles. Hypertrophic muscle changes take place in the congenitally poorly developed side until muscles on the two sides of the spine are of the same strength. Inherent weaknesses due to congenital underdevelopment are thus obscured yet still remain latent within the muscles to reappear in certain instances later in life. The majority of persons, however, are not troubled further and their spines remain symmetrical in spite of latent differences of muscle strengths.

Occasionally congenital differences between opposed sets of spinal rotators are so great that final adjustments immediately following birth are never perfectly completed in symmetrical fashion, and such infants are congenital scoliotics of muscular origin in contradistinction to congenital scoliosis due to unbalanced bony variations of vertebrae.

There will be a certain number of persons in whom normal bilateral symmetry is attained at the expense of the utmost exertions of the weaker set in the muscle balance, and when the period of rapid growth occurs about the time of adolescence there is a lagging behind in growth of congenitally poorly developed members that have nearly exhausted their reserve powers of growth already. The more rapidly increasing strength of their physiological opponents slowly begins to pull the vertebrae into typical scoliotic deformity.

When the period of rapid growth has passed the weaker muscles may catch up gradually by continued growth until more perfect muscle balance is regained. Bony deformities persist, however, that developed in soft growing bones while the latter were held in deformed positions for years and finally were fixed by ossification processes.

It is possible for a person at middle life to have a moderately deformed scoliotic back that is strong and symptomless, similarly as there may be moderate deformities of the feet and yet the individual possess strong symptomless flat foot.

Acquired scoliosis may develop when unilaterally congenitally poorly-formed, weakly-resistant members of the muscle balance succumb more quickly to harmful vascular conditions than do the stronger, better developed members of the bilaterally symmetrical balance. Onset of scoliosis in this instance is timed by the appearance of vascular defects which destroy muscle balances temporarily.

Vascular defects occur very commonly during adolescence and aggravate the progress of scoliosis that has been initiated by differences in rates of growth among bilaterally opposed congenitally differing muscles. However, there may be rapid undermining of muscle strengths of stabilized scoliotic spines at middle age from temporary very faulty blood conditions, and in these cases new symptoms developing are attributed erroneously to the obvious spinal deformity while real hidden causes for symptoms exist untreated often in the blood. Such patients are subjected to unnecessary corrective treatments for their stabilized structural spinal curves.

Acquired scoliosis develops after infantile paralysis at times from loss of symmetrical muscle balance on the two sides of the spine from this cause. There is a tendency among some orthopedists at present to assume many cases of scoliosis are due to unrecognized mild cases of infantile paralysis but the writer believes these can be satisfactorily explained as unrecognized congenital unilateral muscular variations. Such explanation seems preferable to wide acceptance of unwarranted suppositions of failures of diagnosis in such a definite disease as infantile paralysis.

BALANCED AND UNBALANCED BONY VARIATIONS OF VERTEBRAE.

Figure 8 shows balanced or compensated variations among bones of the lumbar spine, and straight vertebral alignment is not interfered with. A slightly wedge-shaped vertebra is compensated by an adjacent second wedge-shaped vertebra with the base of the wedge on the opposite side of the spine from the first one.

There may be variations in development between two corresponding intervertebral articulations on the two sides of the spine, and yet one series of articulations as a whole may equally balance the series of the opposite side, although individual peculiarities occur on both sides of the spine among the entire lot. There is shown in Figure 8 unusual cleavage and asymmetry of the sacrum.

Compensated bony variations possess no practical significance usually as is demonstrated

by x-rays of many individuals possessing such variations.

Best examples of unbalanced vertebral variations are seen in late bony deformities resulting from scoliosis of muscular origin. If all muscle tension were removed, such spines would continue to remain in deformed positions, and these deformities act as causes for continuance of future deformity, while simultaneously representing results of previous causes that have already acted.

There has been collected evidence that marked unbalanced vertebral variations do exist occasionally, dating from irregularities of foetal bony development, that must be assumed to be causes for a few cases of congenital scoliosis. There are very many instances of extremely slight degrees of bilateral spinal asymmetry presumably if differences are measured by micrometer but these instances are ignored in the present connection.

Over-developed or under-developed equally balanced sets of muscles have little significance in development of scoliosis; but strong, over-developed sets presumably are important factors in flattening out bony differences. For unbalanced symmetrical bony variations of vertebrae would have to be extremely well marked to produce permanent lateral spinal curvatures if strong even muscle balances were acting naturally to produce normal bilaterally symmetrical development. Bones probably gradually adapt themselves to straight alignment in spite of their irregularities, similarly as evenly developed bones slowly become deformed to striking degrees under the continuous influence of uneven muscle balances.

VARIABLE STABILITIES OF MUSCLE BALANCES.

Discussion has centered thus far about lowest normal limits of balances between bilaterally symmetrical, physiologically opposed muscle groups. There should be recognition that each physiologically opposed muscle set possesses a variable range of stability with maximum as well as minimum normal limits.

If both members of the balance are represented by large, strong, well-formed muscles that have developed very evenly on the two sides of the spine in foetal life, then there will be large reserve powers of functional adaptability existing on both sides of their resultant very stable balance. Under these circumstances any new factor, such as a faulty twisted posture maintained at times by school children sitting for protracted periods at their desks, will not disturb the normal muscle balance visibly although reserve stability will be diminished slowly.

On the other hand, if both members of the balance are represented by very small muscles that have developed also rather unevenly on the two sides of the spine in foetal life, with partial exhaustion of reserve powers of one of the members in adjustment of final balance immediately following birth, the necessary hypertrophy for maintenance of normal bilateral symmetry, there will be resultant extremely delicate normal muscle balance that can be easily upset.

There are many degrees of stability of balance possible theoretically between these two high and low normal limits, yet latent reserve powers of balanced muscle groups can not be proved or disproved directly in satisfactory manner by scientific experiments.

When stabilities of muscle balances are delicate, trivial factors may swing the balance of equilibrium at such times either in favorable or unfavorable directions. It is conceivable that the faulty twisted posture of a school child may be the last straw to upset normal conditions, or if the twisting occurs in the opposite direction in a manner to relieve weakening muscles to trifling degree then it can be considered theoretically as a favorable influence.

Very slight vertebral variations possibly may possess some practical significance under these exceptional conditions, but it should be noted that destruction of normal muscle balances is the final step that determines the onset of developing deformities, and that rapid rates of growth, changes of vascular conditions, vertebral anomalies and occupational postural peculiarities are contributing factors always in the final upsetting of muscle balances.

NATURE OF VASCULAR DEFECTS THAT UPSET MUSCLE BALANCES.

The blood stream is a sewage system as well as a food supply for the tissues. It contains useful and useless substances and each of these vary from time to time to greater or less degree. The influence of circulating blood on the muscles therefore is always a mixed one. They are benefited in variable degrees by shifting proportions of useful substances. In rapidly growing children food materials are quickly ap-

propriated by the tissues so there may be slight deficiencies of useful substances in circulation if the diet is faulty. On the other hand, as food substances diminish there are relative increments in proportion of useless waste products. Harmless waste products may assume mildly deleterious properties toward muscles if they rise above certain unknown limits.

It will be seen that vascular influences on tissues are essentially matters of complex balances among numerous constituents of the blood. Foreign substances occasionally obtain entrance to the blood stream and in extremely minute quantities they may possess greater toxic properties than large excesses of useless normal waste products.

Vascular defects are frequently of comparatively brief duration, and congenitally poorly resistant muscles succumb for a while to unfavorable vascular balances, then are restored in strength gradually as a more beneficial vascular equilibrium is reëstablished. Vascular defects account for many slight scoliotic curves probably, that appear and then disappear again soon under appropriate medical care. Vascular defects are readily overlooked and if increase of scoliosis occurs with increased back weakness, there is likelihood that spinal curves will be attacked with renewed vigor without corrections of more important contributory causes for the scoliosis in circulatng blood.

MUSCLES INVOLVED IN SCOLIOSIS.

Latent muscular peculiarities cannot be identified by examinations of equal sized muscles of equal strength, and so the only criteria that can be utilized in estimating probable muscular involvements are peculiarities of individual scoliotic curves, amounts of rotation of vertebrae, degrees of S shaped spinal deformity, and x-ray peculiarities.

Suspicion fixes itself prominently on multifidus spinae muscles and on longissimus dorsi muscles, but presumably there are different degrees of involvement in many muscles intimately associated with maintenance of spinal integrity. There is no positive way of identifying which muscles show greatest congenital peculiarities and probably each individual case presents individual minor variations.

TREATMENT OF SCOLIOSIS.

Adequate discussion of treatment of scoliosis would require a long separate paper. Some patients are confined now in heavy corrective jackets. Some have been subjected to operations whose object is the fusion of spinous processes of lumbar and dorsal vertebrae into a continuous bony mass. Others are treated with special exercises for long periods, a few have special attention paid to corrections of their vascular defects, and many are taught the dangers of faulty postures.

It is the writer's belief that existing methods are used not infrequently in a manner that may increase rather than diminish scoliotic tendencies, and that greatest promise for increased efficiency in treatment in the future lies in better understandings of natures of scoliosis that permit more skillful use of methods already in use.

While great advantages of special skill in use of special methods should be recognized fully, yet these advantages have to be weighed carefully, against the limited physiologic scope of special methods and imperfect understandings of entire problems. The latter may lead to use of excellent measures at inappropriate times with resultant diminished efficiency as viewed from patients' standpoints although great special skill may have been shown.

CONCLUSIONS.

1. Acquired scoliosis developing in normal appearing, rapidly growing young patients who have no history of past anterior poliomyelitis is due primarily to unilateral congenital differences in development of spinal muscles. The onset of scoliosis is determined commonly by a lagging behind in growth and strength of the more poorly developed members in physiologically balanced, bilaterally symmetrical sets of muscles at their period of most rapid growth in adolescence.

2. Faulty blood conditions acting on unilaterally congenitally defective spinal muscles also are contributing causes frequently in developments of acquired scoliosis. Such congenitally defective muscles weaken more rapidly under the influence of faulty blood supply than homologous muscles on the opposite side of the spine, and a defective scoliotic balance develops as a result. Acquired scoliosis of vascular origin is likely to be of brief duration often because vascular defects are quickly corrected very frequently.

3. Congenital scoliosis is due at times to very marked congenital differences between homolo-

gous members of balanced spinal muscles. Differences are of such degree that normal establishment of physiological balance between them becomes impossible immediately after birth as usually takes place by hypertrophic muscular readjustments among less widely differing sets.

4. Congenital scoliosis is due at times to uncompensated congenital structural variations of vertebrae.

5. Marked congenital scoliosis is due presumably at times to combinations of slight congenital unilateral differences in muscles with slight congenital uncompensated variations in vertebrae.

6. Marked acquired scoliosis is due presumably at times to equal combinations of several contributory factors acting together to destroy muscle balance.

7. Compensated vertebral variations are of very minor importance in development of scoliosis.

8. Occupational factors act as contributory causes in development of acquired scoliosis.

9. Other contributory causes for spinal lateral curvatures are found in muscle paralysis following anterior poliomyelitis, contractures after empyema, diseases of hip joints that produce unilateral shortening of the legs, torticollis, and the malnutrition of rachitis.

10. Stabilities of physiological balances between opposed members of sets of spinal muscles exhibit variable ranges with low and high limits that permit normal bilaterally symmetrical posture. When low limits of normal muscle balance are passed spinal deformity makes its appearance, and when upper limits of stability are approached spinal deformity is very difficult to produce, as when congenital developments are equal on the two sides of the spine in balanced muscles of exceptionally large size and strength.

11. This complete conception of scoliosis if applied in practice will modify prescriptions of special treatments to important degrees and may lead to increased efficiency in management of cases.

ELECTION OF DR. JOHN S. DEAVER.—Dr. John S. Deaver of Philadelphia has been elected president of the American College of Surgeons, to succeed Dr. George E. Armstrong of Montreal

THE NECESSITY OF MAINTAINING PROPER STANDARDS OF NURSING CARE.*

BY ELISHA H. COHOON, M.D., MEDFIELD, MASS.

Superintendent, Medfield State Hospital.

CIVILIZATION connotes change and progress. Advance in civilization can always be measured or determined by the character of the concepts of the individual regarding his relations to others as well as to himself. Whether these relations and inter-relations are particularly concerned with matters of a physical, moral, economic, or spiritual nature, they all will reduce themselves in the end to a fundamental basis, namely, the individual's attitude or relation to his physical *me*, his social *me*, and his spiritual *me*.

The history of civilization unfortunately does not show that advances have always been constant or that progress has always been made along the best and most definite lines. Although convinced that civilization is evolutionary we are forced to admit that in its course are found periods of stasis and even regressions, and that many of the concomitant changes are as liable to be caused or accompanied by violence as by orderly measures based upon reason and the experience of others. The greatest advance has been in the realm of social relationships and we actually progress in civilization as we develop broad social instincts. The period comprising the last century, characterized by great advances in the arts and sciences, has also been characterized by the practical application of the obligations and duties of the individual to his fellow man, not only as it relates to personal contact, but to the community at large, and to the whole human race. The late world war, despite its interpretation by many as being an evidence of a set back for civilization, has been productive of placing before us as never before the importance of our social inter-relationships and particularly the necessity for assistance to others, and the fact that to aid one another is both an individual and a national duty. Of the many things learned as a result of the war none has been of more importance than the appreciation that a nation and a people can be successful and can develop only as their minds and bodies are taken care of and protected, and it has been

* Read at the graduating exercises of the Boston State Hospital Training School for Nurses, June 25, 1920.

demonstrated especially that the prevention of disease and the carrying out of the general precepts of health are the great factors in the program for development.

The history of nursing goes back to the beginning of the history of civilization and in a way we find the course of nursing more or less conforming to the general changes and fluctuating course that has marked civilization. The benefits of intelligent care, particularly for the physically ill, have always been appreciated, to some extent, by all peoples, but there has never been anything further than a relative comprehension of the scope of the field of nursing or of its actual benefits. Previous to the last century, efforts at organized nursing were carried on usually by independent and unrelated bodies and societies, or by religious orders representing the various churches, and in Christian countries it is to the credit of the churches that the spirit of nursing was kept alive through periods of varying degrees of darkness. It can rather be concluded, at least in some instances, that the motive of those entering upon this work was largely based upon the idea of a spiritual reward, but it cannot be charged that service to the individual and to the community was disregarded. The changes naturally resulting from the new spirit introduced by Florence Nightingale, although constituting a marked advance, only partially presented the importance of nursing from its broad aspect and only defined to a limited extent what we now believe to be the true ideal of the nursing profession.

In the last half century there has been marked progress. Training schools have been introduced into practically all hospitals and the courses have not only become lengthened but have been made more practical. This progress, although on the whole sure and steady, showed the marks of the influence here and there of the public's sentimental attitude toward the care of the sick in general and especially as it related to hospitals. Some who became applicants for the training schools made the decision because they felt they had certain powers "to cool the fevered brow" and to heal the sick and as a result would be regarded in the light of the ministering angel, while others entered gaily into this work of hardship feeling it was the fashionable thing to do. As time went on, naturally, this particular element of sentimentality to a considerable extent disappeared and was replaced by the more practical reason for entering a training school, namely, that it provided a splendid vocation for certain types of young women. The demands for more scientific and better training resulted in another change and nursing gradually came to be looked upon less as a vocation and more as a profession, and so conforming with the general trend of the times I believe we can see the growth of nursing from a vocation requiring a certain amount of education and proficiency in the care of the sick, to a profession, the requirements of which demand a good preparatory education and the acquiring of considerable scientific knowledge. On the whole, its development has been along lines of intelligent progress. Associations have been formed and much literature has been contributed by nurses to the various magazines or organs managed by their National and State associations. The whole result has been one great achievement and at the present time nursing presents itself as one of the important, if not the most important, of all professions. When we take into consideration the handicaps, the character of the work, the long hours, the amount of study, the rigid training, the privations, small remunerations and the service given, our respect for the nurse and for the nursing profession should be greatly increased. As time went on and the courses for the training schools were lengthened and the preliminary educational requirements were raised it became more and more difficult to become a graduate nurse. The late World War has presented to us the importance of nursing as it has never been understood or appreciated before. The part that the nurses played, both abroad and in this country, cannot only not be given too great praise and too much appreciation but has placed the profession in a position that not only demands respect but has caused it to be considered a great and necessary factor for the proper defense and life of the nation.

As the community came to realize the value of the nurses' work so have the demands for the nurse increased. No longer do we conceive the function of the nurse to be restricted to the care of patients in the hospitals and in the private homes. New fields for operation of the nurses' function have already been recognized and the future promises more new fields to be opened and a general enlargement of the nurses' sphere. The public health nurse, the district nurse, the factory nurse, the school

nurse, the Red Cross nurse, the army nurse, and the nurse specialized in other fields are not only at present in great demand but have been so for some years and the demands along these lines are increasing every year. The future can only be predicated on a basis of experience and present trends. I believe it can be rightly assumed that the call and need for nurses will not only be for greater work along these particular lines but will come from unthought of sources and angles. The field of prophylaxis, or the prevention of disease, is only beginning to be opened up and the time seems to be ripe for great development. Undoubtedly for a comparatively long period of time the development of this branch of medicine will demand the employment and coöperation of specialized nursing. In the war for the prevention of disease in general and especially against the invasions of epidemics, the nurse will have to play the part of the day and night outpost as well as the real front and rear line defender.

The education of the nation is about to undergo radical changes. So far it has rather been limited to the teaching of languages and the fundamentals of the arts and sciences, overlooking that large territory in which lies the health, both mental and physical, of the child, the youth and the adult. I believe that the hope for future generations and the nation's best welfare depends upon the conception of the aims and methods of education as they will apply to the practical training of the child, the youth, and the adult, from standpoints of physical, mental, and moral health. If this new development in the field of education should take place, and I have no doubt of it, it can only be successfully accomplished with the aid of the scientist, the physician, and the nurse, the latter probably playing the greatest and most important rôle. All of this will, of course, by increasing the demands require not only more highly trained and more highly specialized nurses but will require a much greater number. As the preliminary requirements have been increased, as the standards of the training course have been raised, as the new fields have opened and in general the demands have increased, the inevitable has occurred, that is, that even at the present time the demand has become greater than the supply. To be true, the war, special economic conditions, lessened immigration, and other factors have all assisted in decreasing the supply. The situation at the present time is both acute and grave and the future holds out little hope unless steps are taken to somehow remedy this condition.

It would seem that we are about to enter upon a new epoch in the history of nursing and that now is the opportune time to take stock, to develop new ideas, to formulate new plans and arrange for new programs not only to meet the requirements of the present but to provide for the necessities of the future. How is the nursing profession and all others who are interested in and appreciate this condition going to meet the situation? How are we to meet these new requirements and at the same time increase the numbers? The field of usefulness of this work is not and cannot be restricted to the part to be played by the specialized and scientific nurse. Usual nursing care of high grade character must still be rendered to the patient in the hospital, to the patient in the private home, and especially in the homes of that class of citizens who do not care to accept charity but whose resources will not permit the employment of a scientific, highly specialized nurse. Current literature in nursing magazines indicates that the nursing profession are alive to this situation and are attempting to work out a solution. So far as can be learned, with one or two exceptions, the plans that have been suggested in several states are about as follows: To increase the requirements and standards for the graduate nurse and to supplement the deficiency in numbers that will inevitably occur, as did occur under like conditions in the medical profession, by the introduction of a new element into the nursing field, namely the trained and licensed attendant. The bills that have been introduced into the legislatures of two states, at least supported by some of the leaders of the nursing associations as well as by interested parties of laymen and laywomen provide for the licensed attendants to receive a nine months' training in a hospital, sanatorium or association. The proponents of the various bills for licensing attendants state that the licensed attendant can take care of the ordinary sick person in the home and will also be able to do a certain part of the nursing work in the hospitals. On the surface, this would seem to be a practical solution of this question, but examination into it by some leads to the conviction that the very object sought will not be attained, and that it may be the means of the introduction of an in-

ferior element into the nursing field with results correspondingly disastrous.

In the first place, the requirements as set forth for the licensed attendant do not include any preliminary education and a rather indefinite and vague training of nine months, and yet they are expected to take over a considerable portion of nursing work which up to this time it was felt could be done only by those who had taken at least two or more years of good hospital training. If this were to be considered in the light of an emergency or an expediency it could perhaps be excused, but with the trend and the necessity for raising the standards of the trained nurse, the inevitable lessening in the number of graduates and applicants for the training schools, will not the amount of this nursing work to be turned over to the licensed attendant increase and become more complicated?

Secondly, have we a right to conclude or even assume that there will be a rush of applicants to the hospitals, sanatoria, and associations for the degree of licensed attendant? What stimulus will there be even for the poorly prepared female to attain a degree of such an inferior rank and under a new name, to do the work hitherto done by the nurse? My own opinion is that recruits in any great numbers cannot be expected for the degree of licensed attendants, and this opinion is based upon the experience had in the State Hospitals in Massachusetts. In 1916, the nursing care for the insane in the State Hospitals in Massachusetts was standardized. This standardization arranged for a definite preliminary educational requirement of one year in high school and a three years' course for the training school for nurses. It was expected that this would reduce the number taking the training course for nurses and to supplement for this reduction a course for trained attendants was also introduced. Our expectations as to the reduction of numbers were realized and in some instances the reductions were considerable. While the standardization was successful from the standpoint of the training school for nurses, outside the question of numbers, the training course for attendants was not the success we had hoped. Not only were young women not eager to take the attendant course but in some cases had to be urged to take it. The word trained attendant appeared to be objectionable and, as some have expressed to me privately, they saw no reason why, if they were doing a part of the nurses' work, they should not be called nurses. What evidence has been presented to indicate, outside of a few isolated instances, that young or adult women desire to take a course for trained attendants and to be known as licensed attendants?

Thirdly, is it possible that we can so easily change the connotation of the term nurse? Taking care of the sick, whether by one specially trained and registered or not, is undoubtedly looked upon by people in all walks of life as nursing and I am convinced that no act of the legislature or any other thing will change the people's ideas as to how this work should be termed and classified. In a word, is not the work that is supposed to be done by these licensed attendants a very important part of nursing work and why, therefore, should it not be carried on by nurses? In the medical profession, the general practitioner in many instances is not looked upon as a scientific man and as a rule is certainly not doing specialized work, yet his work is not regarded as unimportant and he is still known as doctor. I have been told that a meeting of any nursing association in which reference is not made to Sarah Gamp and her style of nursing is rare, but would not this innovation push Sarah Gamp's work into such a state of oblivion that her name would not even be remembered within a decade or so?

In finally determining the course to pursue to solve this problem I believe the one factor for guiding us should be Service. This matter is of such a nature and is of such importance that a consideration of it should not be confined to the nursing profession only. Successful medical progress can only be attained when accompanied by adequate nursing progress and so it is rightfully as important a matter to the physician as it is to the nurse. The community, which will either suffer or be aided by the determination of this question, should also be interested and where possible consulted. I believe that the solution to be arrived at must be primarily based on the premise that caring for the sick in any capacity is nursing and that the introduction of a new name will not only be illogical, but, through its results detrimental.

In place of resorting to the licensed attendant as a means for meeting this condition there has been suggested a plan that would establish

a graded system of nurses. Briefly, this would arrange for at least two and possibly three grades of nurses. If we should accept the plan of the three graded system, the highest grade, termed whatever it may, would be attained by those who have had at least a high school education or possibly one or two years in college as a preliminary requirement and who would be graduates of hospitals of high rank, giving them at least a three or four year course of training. From this grade could be obtained the scientific, the specialized nurse, and the superintendents of nurses for training schools of all ranks. The second grade would comprise that group of nurses who have been graduated from a grammar school, or better have had one year in high school, as a preliminary educational requirement, and whose hospital training would be at least two years and possibly more. This grade of nurse would be the one that would be called upon particularly to do the usual nursing in the community in private families and in general to do the work that has been done by the trained nurse up to within a few years. The third grade would simply be the practical nurse with at least one year's hospital training and whose work would lie along the lines of the present untrained household nurse of the community.

The alternative plan for this, namely to have nurses divided into two grades, could be briefly stated as follows: the first grade to consist of those who have taken at least a three or more years course in a hospital of recognized standing, and whose preliminary requirements should be a high school course or college work, and in general correspond to the requirements and training as set forth in the highest grade of the first suggested plan. The second grade would consist of those who will have had at least a grammar school education and at least 18 months or more of good hospital training. The latter plan to considerable degree corresponds to one that was proposed by the Legislative Reference Bureau in the State of Illinois and introduced as a bill. The bill, briefly, provided for two groups of nurses, one with a minimum of 27 months' training and certain preliminary requirements, to be known as registered nurse, and the other with 18 months training and less preliminary requirements to be known as registered junior nurse. The courses could be so arranged that the applicant for the course of registered junior nurse could in time, provided she met the requirements, pass on to the higher grade. Surely there would be more applications for the course of registered junior nurse than there would be for the course for licensed attendant, and the superior training of one year and a half or two years would be of some actual value to the hospital and to the community.

As I see it, the reasons against a solution of this problem by the introduction of the licensed attendant to the nursing corps, can be summarized as follows:

1. The number of nurses will relatively be greatly reduced in the hospitals and in the community on account of the extra demand, and actually reduced on account of the raising of the standards and requirements.

2. To meet this condition a large part of what is now considered nursing work will have to be done by attendants.

3. The suggested course for attendants and requirements are not sufficiently high to fit them for this work.

4. The improbability of being able to induce young women, in sufficient numbers to take the trained attendants' course.

5. The use of a new term that will not be appreciated by the worker or accepted by the public.

My reasons in favor of a graded system consisting either of two or three grades may also be summarized as follows:

1. It will provide for the highly trained nurse and will arrange for the raising of the requirements and standards.

2. It will arrange for the accomplishment of the usual hospital and community nursing by nurses who will have had suitable and sufficient training.

3. It will act as a stimulus or inducement for young women without the highest preliminary requirements to enter the nursing field, and so provide us with the number required.

4. It will arrange for promotion from one grade to another.

5. It will dispense with the necessity of using an illogical and unappreciated term.

In addition to what I believe to be the correct method as to the nurse or the attendant side of this question, there is another very important consideration connected with the nursing problem. Public schools for some years have included in their curricula preliminary work looking toward the pupils' entering vari-

ous vocations and professions, but I am told that it is at least not a uniform practice for either grammar or high schools to give courses which may either stimulate the interest of the pupil to take up a nursing course or to provide any special work of a preliminary character. As it is such a vital matter for the individual and the community I believe that those of us who truly understand the question should bring it to the attention of the school authorities so that not only would suitable courses be given in the secondary and high schools but the importance and necessity of it could be so presented to the pupil that she would feel that to become a nurse is as much an act of patriotism as it is for a boy to become a soldier. It should no longer be considered as a profession that might meet the individual's likes and inclinations but should be looked upon as a matter of defense and national duty.

Just as it is important for the wise and intelligent citizen to become acquainted with and watch the changes, the theories, and the programs in the political, economic and social spheres so this matter is important to all and especially to the members of the nursing and medical professions. Keeping in mind the general welfare of the nation, recognizing our duties as members of allied professions, and realizing the vital importance of this whole question as it affects the individual, the community and the nation, I believe that a solution of this problem should not be attempted on a basis of expediency or the seeking for higher educational standards alone, but should be solved on a basis of service to and general welfare of the nation.

CONDITIONS IN PALESTINE DURING THE WAR AND MEDICAL RELIEF AMONG THE CIVIL POPULATION AND THE REFUGEES.*

By Izak Alcazár, M.D., Boston.

It was not long after the war broke out that the medical profession as a whole was awakened to its sense of responsibility in the struggle for world freedom. The work of the American Red Cross in Palestine made a very strong appeal to me, but owing to illness I was prevented from joining the organization.

After the lapse of several months, I had the opportunity of affiliating myself with the British Expeditionary Forces in Palestine. My chief aim was to bring relief to the civil population, irrespective of race or creed.

On arrival in the Holy Land, we found the need of physicians was most urgent. At the outbreak of the war the doctors who had been subjects of the Allies were either expelled from the country or taken prisoners. Those who had been subjects of the Central Powers joined their respective armies, thus leaving the population of Palestine without any medical aid whatsoever. The quack doctor then flourished to his great advantage but to the detriment of the health of the inhabitants. The ophthalmic condition was deplorable. There was only one ophthalmologist in Jerusalem in charge of the eye hospital.

In order to appreciate the need of the medical work which it was my privilege to do in Palestine, it will be necessary to give a brief description of the conditions which prevailed there at the time and shortly subsequent to the outbreak of the war.

The first knowledge that burst upon the Palestinians that Turkey had cast her lot with Germany was made known to them by native musicians going through the streets of towns and villages sounding a drum to the tune of a funeral march. Many of the inhabitants looked out of the windows, and others congregated in the streets to enquire as to the purport of this sudden dirge. Thousands and hundreds upon thousands soon found out that it was the call to an untimely end. It was indeed the angel of death calling hosts of men, women, and children to misery, disease, starvation and death.

JEMAL PASHA.

There was a Turkish military authority in Palestine who resembled a devil in human form. His name was Jemal Pasha. He was the author of many ferocious orders, such as public floggings, expulsions and hangings. He had a special hatred for Jews and Americans. Daily there would be posted lists of such persons who were to be deported to Damascus, Beyrut, Constantinople or to some remote place. Of course the Government did not provide them with the means of transportation or with pro-

* On the 25th of May, Dr. Alcazár sailed for Palestine the second time to open an eye, ear, nose, and throat hospital for the needs of the civil population. The plan is to establish the hospital in Haifa and hold clinics in the surrounding villages, one in Nazareth and one in Acca. The chief feature of the work will be to educate the natives as to the contagious nature of trachoma and in prophylactics.—*Editor.*

visions. One young woman, an American citizen, who was ill with fever, begged permission to remain behind until the fever should subside, but her request was denied, and she was carried away in a litter. A certain young man, also an American citizen, the director of an important concern in Jerusalem, was seized in his place of concealment, put in irons, and sent to Damascus. He has not been heard from since. The United States refrained from declaring war against Turkey in order that the lives of American subjects in Turkey might not be endangered. Here is the proof that Turkey did not respect Americans within her borders.

In my travels through Palestine I have seen places where these distressed refugees spent weeks, months, and even from three to four years. Many of them no sooner settled themselves in their improvised miserable mud huts than they were ordered to move on to another place. Is it to be wondered that the pestilence of typhus, cholera, malaria, and starvation swept away thousands like the plagues of Egypt? Fifty per cent. more people died of disease than from actual warfare. Women and girls were subjected to the grossest insults by the military forces. I have been told by many refugees that the Germans were more barbarous in that respect than the Turks or the Austrians. The virtue of a girlhood was a common price to pay in order not to be accused falsely of being a spy, or to save a brother, a father, a husband, or a sweetheart from the service of the Army. I have learned from reliable sources that during the war few girls could pride themselves of a God-given virtue.

As I passed through the streets of towns and villages from which the inhabitants had been forcibly expelled, I saw on every side houses with closed doors, and windows fastened. One remembered that here and there such a family had lived and that active life had once flourished within its walls. The houses and schools surrounded with gardens, where hundreds of children had played, were now as silent as the tomb. The plague and pestilence had swept away all signs of human life and left complete desolation in their trail.

In some places where there was not time enough to expel the entire population, great misery ensued when epidemics broke out. The Turk always managed to carry away all hospital and medical supplies, hence there was not the means of combating any of the diseases that smote the populace. The mortality increased so rapidly in such forsaken and devastated villages that the dead lay on the ground unburied for days. The hyenas and the jackals would come down from the hills at night and feed upon the carcasses. What an agony must those inhabitants have experienced, knowing that their government had betrayed them and that they had been left helpless to starve and die!

THE ESTABLISHMENT OF THE FIRST EYE, EAR, NOSE AND THROAT HOSPITAL IN PALESTINE.

It has been necessary to give the above description of the conditions in Palestine following the outbreak of the war to the conquest of Jerusalem in order to set forth the urgent need of medical aid to its suffering inhabitants.

I will not attempt to narrate the splendid work of the various departments of the Medical Unit to Palestine, but will confine myself to a brief outline of the work of the eye, ear, nose and throat department, of which I was in charge.

The first six months of my service were in Jaffa. My clinic and hospital consisted of six rooms and a kitchen. My consultation room served both for clinic and operative work, as it was impossible to spare a room exclusively for that purpose. For three weeks I did not dare to operate for fear of infection; but as the urgent cases continually increased the only alternative was to clean the clinic-room the best possible and operate after clinic hours. Two kitchen tables covered with a marble slab formed the operating table. Had my colleagues in the United States seen the flies and the sand in this improvised operating room they would have condemned it severely. Through this room passed about two hundred and fifty patients daily, in all grades of filth. Some of the Bedouins were so dirty that the stench which emanated from their bodies was stifling. Many of the refugees were not any better off. Through the generosity of a friend in the United States I was enabled to furnish free baths, soap and towels to such patients; otherwise it would have been impossible to tolerate their presence. In addition to their filth, the lice and fleas were another source of menace to myself and to the nurses. We were obliged to wears caps and gowns in order to protect ourselves.

It would seem a vain boast, but nevertheless

A Bedouin Woman.

it was a fact, that despite the uncleanly condition of the patients there was not a single infection during five months of operative work in Jaffa hospital.

CLASSES OF PATIENTS.

The classes of patients consisted of Jews, Christians and Mohammedans. The Moslems are by far the most needy, especially the peasants and the Bedouins. The latter class lives far away from the cities and neglects itself more, and consequently it is of greater menace to infection, and a potent agent in spreading the disease of trachoma. They suffer more from defective vision and blindness than those who live in the cities. The peasants are the next sufferers in point of severity. They come to the cities only after their condition is severe and alarming. Seventy per cent. of the Arabs present a trachomatous condition requiring some operation for relief; many are already beyond recovery.

METHODS OF TREATMENT.

My knowledge of Spanish, French, Italian, and especially Arabic, has been of the greatest assistance in my work. This medium of common understanding made it more possible for me to aid the patients and combat the disease. Patients came from all over Palestine. The first day there were thirty-five. At the end of one month it was necessary to limit the number to two hundred and fifty a day. It was a physical impossibility to see more. They would begin lining up at six in the morning. We were compelled to employ a gateman and two policemen to keep order among the patients.

The new cases were first examined, and then if there was any time left before noonday, the severe old cases received attention. But once a week all the old cases were reëxamined.

The clinic and the hospital were conducted according to the same methods as the Massachusetts Charitable Eye and Ear Infirmary of Boston, where I received my training for three years as resident surgeon. It was only by the hearty coöperation of a large force of trained nurses and orderlies that I was enabled to handle such a large clinic. The patient was brought before me with his history card. The secretary at my left wrote the diagnosis, and the treatment to be followed in the clinic and at home. An assistant druggist gave the patients medicines for home use, and then they were escorted to the next room where a trained nurse and her associates supplied the medicaments to the eyes or ears, and gave them instructions as to how to treat themselves at home. The severe cases were seen every day; others came to the clinic two or three times a week.

Heretofore physicians in Palestine were accustomed to treat their patients in the clinic only. The results of the new system which I introduced into the combined clinic and home treatment were greatly appreciated by the patients, especially by those who came from a distance of two or three hours on foot, as well as by the business men, and above all by the mothers who left their children at home.

With some patients it was found necessary to compel them to pay us daily visits, because they would not treat themselves at home, either on account of ignorance or sheer laziness. It was a great pleasure to find that the Arab population was more faithful in following the instructions given for home treatment than were any of the other classes of patients who possessed a higher degree of intelligence than the Bedouins.

The afternoons were set aside for operations. Upon some days they numbered as many as ten, but later in my service I was obliged to limit them to five, as I was then getting on the verge of a nervous breakdown.

It seemed to me that during the first month of my service I was as busy as I would wish to be, but soon I realized that it was but the beginning of the hard work which lay ahead of me with the return of the refugees from the towns and villages that were liberated in the final blow in Palestine. It may not be amiss to narrate now the story of this remarkable and historic drive.

(To be continued.)

Book Reviews.

The Johns Hopkins Hospital Reports, Volume XIX, Fasciculus III. Baltimore: The Johns Hopkins Press. 1920.

A recent issue of *The Johns Hopkins Hospital Reports,* Volume XIX, Fasciculus III. contains an important report of a study of arterio-venous fistula by Dr. Curie L. Callander. The author has discussed the history of arterio-venous aneurysm, its classification, etiology, pathology and pathological physiology, symptomatology, and its diagnosis and prognosis. The article contains consideration of non-operative methods of treatment by the injection of coagulating fluid, galvano-puncture, medicinal treatment, and indirect and direct compression, and of operative methods of treatment including the Hunterian ligation, Anel's ligation, double arterial ligation, quadruple ligation, incision of sac, and extirpation. The conserving operations which maintain the continuity of the vascular paths,—ligation of the communication, lateral suture, and end-to-end suture,—are described, and the Korotkow blood-pressure test for determining the efficiency of the collateral circulation is explained. Brief mention is made of the work of Amussat, Franck, Vignolo, Jaboulay, Carrel, and Reid in the field of experimental arterio-venous aneurysm. A detailed statistical table of four hundred and forty-seven analyzed cases is included in the report.

Lectures on Surgery to Nurses. By ALAN H. TODD, B.Sc., M.S. Lond., F.R.C.S., Eng. London: Edward Arnold. 1920.

This volume, "Lectures on Surgery to Nurses," by Dr. Todd, is made up of a course of lectures given by him during recent years to the probationers at Guy's Hospital. It is not the manual of surgical nursing, but rather an attempt to present simply and clearly those fundamental truths of pathology and surgery which are necessary if the nurse is to work with the greatest efficiency. Believing that the first essential in intelligent coöperation is an understanding of what is being done by the surgeon, the author has endeavored to explain the vital principles of surgery, confining himself, however, to matters of practical interest and applicability. The lectures include addresses on Inflammation, Ulceration and Gangrene, Inflammation of Bone, Fractures and Dislocations, Diseases of the Joint and Spine, Haemorrhage, Shock and Collapse; Injuries and Diseases of the Head, Brain and Spinal Cord; Tumors, Herniae, Acute Abdominal Conditions, Chronic Diseases of the Alimentary Tract—of the Glands—and of the Breast, Diseases of the Respiratory System, and Diseases of the Urinary Tract. The text is illustrated by a number of excellent plates. Study of these lectures will enable the nurse to undertake her professional duties with enlightened interest and increased efficiency.

Plymouth and the Pilgrims. By ARTHUR LORD. Boston: Houghton Mifflin Company. 1920.

"Plymouth and the Pilgrims," by Arthur Lord, is one of the most readable contributions to our literature relating to the Pilgrims, to be published this year. Its three section headings: Plymouth before the Pilgrims; The Pilgrims before Plymouth; and Plymouth and the Pilgrims, indicate very clearly the scope of the book. The fact that it was selected this year for the Colver Lectures in Brown University is significant of the excellence of the work.

Mr. Lord refrains from personal mention of many of the individual Pilgrims, but, in one of the exceptions made, pays high tribute to Samuel Fuller, who was the Pilgrims' doctor from 1620 to his death in 1633, and the only physician of whom we have record in New England during that time.

The book is a concise statement of historic facts, many of which are little known, woven together into a delightfully interesting narrative. It should be warmly received by everyone interested in our early history.

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Medical and Surgical Journal

Established in 1812

An independently owned Journal of Medicine and Surgery, published weekly under the direction of the Editors and an Advisory Committee, by the Boston Medical and Surgical Journal Society, Inc.

THURSDAY, JANUARY 13, 1921

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Papers for publication, and all other communications for the Editorial Department, should be addressed to the Editor, 126 Massachusetts Ave., Boston 17. Notices and other material for the editorial pages must be received not later than noon on the Saturday preceding the date of publication. Orders for reprints must be returned in writing to the printer with the galley proof of papers. The Journal will furnish free to the author, upon his written request, one hundred eight-page reprints, without covers, or the equivalent in pages in the case of articles of greater length.

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THE HARRISON LAW FROM THE ETHICAL POINT OF VIEW.

A question which seems to require much more careful consideration than is usually bestowed upon it is the influence of the Harrison law upon medical ethics, or to speak more specifically, on the physician's attitude towards his patient, quite apart from the nature of his malady. If it be true that much sickness is the patient's own fault, the result of errors or vices which he might avoid, it certainly seems true that the physician has nothing whatever to do with the morals of a case. Ethically the physician is as much bound to employ his whole skill and knowledge in treating a man whom he knows to be in the wrong, as he is in treating the most worthy of his patients. To the honor of the profession, there is no doubt that he pursues his duty, although his personal feelings may be both outraged and disgusted. Unfortunately, circumstances may be too strong for him; and in the case, for example, of drug maniacs the almost superstitious horror of the public at the spectacle of narcotism has exercised a subtle influence on the physician's ethical feeling; he has become, as it were, denatured by a process akin to that which can turn the most wholesome substance, like a really philosophic mind, from its original purpose.

The essence of the change is the law itself. It is often forgotten that the law is designed primarily to raise revenue; it is also intended to prevent drug users from getting large quantities of their favorite drug, but it throws difficulties in the way of those who would restrain such people from their habits. In many of these cases the patients are men who have acquired the habit of taking bromides sulphonal, acetanilid, and caffeine, which can be obtained without a physician's prescription. Experience shows how very uncertain the effects of these drugs may be in different persons, and therefore how dangerous it is that any person who has acquired the habit of abnormal drug taking, should be free to walk into a chemist's shop and procure and administer to himself a drug for which he has a morbid craving, and whose effects he cannot estimate from his previous experience; even if he has the self-restraint which is probably lacking.

Caffeine is sold in ever-increasing quantities, and furnishes a problem of the highest interest. It is not on the list of forbidden drugs, and yet the curious fact has been established that the public has been told a great deal about its harmful effects. That it is the cause of nervous breakdowns and leads to the taking of drugs commonly known as "dope" cannot be doubted. During the war it was carefully studied from this point of view in Germany. It appears that this drug, like all those in the chemical group in which it belongs, contains an hypnotic and also a toxic element, the effects of which are observed on the next day. Its similarity to the action of morphine may be seen from researches on that drug, summarized in a recent issue of the *Journal of the American Medical Association*: "in small doses the hypnotic element largely predominates. After large doses the toxic element begins to appear and gradually to equal and exceed the hypnotic." The difference, however, is significant, since, in the case of caffeine, these effects are delayed until the "day after."

It is worth while to note than caffeine and the bromides are combined in preparations

which, among other things, make the patient "comfortable." Here an ethical question arises which, in the case of morphine, has been decided by the law and by much, though not all, medical opinion. Should a dose of morphine be administered to a patient or person to make him "comfortable"? The Supreme Court has ruled in the negative. Whether the last has been heard of this decision or not, the wider questions it opens up are very serious. In the increasing worries and anxieties of modern life, nervous complaints and nervous breakdowns are constantly betraying more people into recourse to drugs for producing sleep. It is easy to become a victim of this seductive class of drugs; and it ought to be extremely difficult for anyone to prescribe and procure them for himself without medical advice. But, from the ethical point of view, protection and help are due not only to the patient or person, but also to the families of those who are unfortunate enough to have any of their members among drug victims. They are a cause of excessive anxiety and distress to those who have the care of them.

Should such persons be made "comfortable" by an injection of morphine? The law says, "No"; in an emergency it is likely that physicians would ethically say, "Yes." For whether caffeine, or morphine, or any other of the numerous drugs on the market, be the cause, drug takers in these circumstances would probably require an opiate. Under conditions created by the law it is most difficult to decide. It need hardly be said that, before the Supreme Court's decision, most physicians would probably see nothing wrong in an injection of morphine, although medical practice has always been on the belief that the use of the drug is not only unnecessary, but harmful. Certainly the decision complicates not only practice, but life, very much, since for most drug cases, the choice of a suitable treatment from which all drugs are excluded is still more complicated. In the case of the morphinomaniac the exclusion of the drug is sufficiently dangerous to make it necessary to continue its use, at least for a while, but legally and ethically this has become so difficult that much suffering, and still more illicit traffic have been the results.

The immediately practical suggestion due to this situation is for the establishment of certain institutions purely for the purpose of treating drug habits, and that when the patient consults the physician the first step taken as a matter of course should be a complete diagnosis. This is merely common-sense, and may at first sight seem too obvious. But errors in diagnosis are unfortunately very common. One of the worst results of the law, as anyone must observe who studies these cases in their moral and psychic aspects, is the tendency to narrow the inquiry to comparatively few drugs, and to regard these as the sole causes of the drug habit. It would be interesting to discover if more mischief is done by illicit drugs than by those which are more generally consumed, because they can be procured without medical advice. It would seem that if the majority of people ever attain to a simple, and from the medical point of view, a more rational way of living, it will be due to the pioneer work of doctors and legislators who see the mistakes made in this groping in the dark for a drugless ideal, which leaves the illicit trafficker free to fill his pockets, while tying the hands of the ethical physician.

PAUL BARTHOLOW, M.D.

MEDICAL NOTES.

HONOR TO DR. BERNARD L. WYATT.—In recognition of his services in organizing the French campaign against tuberculosis, Dr. Bernard L. Wyatt, of the Rockefeller Institute, has been made a knight of the Legion of Honor of the French Republic.

CENTRAL COMMITTEE OF THE AMERICAN RED CROSS.—Of the six government members of the central committee of the Red Cross recently appointed by President Wilson, three are physicians: Dr. Livingston Farrand, chairman; Major-General Ireland, surgeon general U.S.A.; Rear Admiral Stitt, surgeon general, U.S.N.

VIVISECTION IN CALIFORNIA.—The bill prohibiting vivisection and also anti-vaccination measures were defeated in the recent referendum in California.

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.—Announcement has been made of the following changes in the pathological chemistry staff of the New York Post-Graduate Medical School and Hospital: George Eric Simpson, Ph.D., has resigned as instructor, to become assistant professor of biochemistry at McGill University. James J. Short, M.D., has

resigned as instructor, to complete his internship in the hospital. To fill this latter position, Hilda M. Croll, A.M., formerly associate professor of physiological chemistry at the Women's Medical College of Pennsylvania, has been made associate. Cameron V. Bailey, M.D., has been appointed assistant professor, to devote his time largely to respiratory and metabolic work.

Election of Dr. Rudolph Matas.—Dr. Rudolph Matas, New Orleans, was elected vice-president of the American Medical Association at a recent session of the board of trustees. Dr. Matas will succeed Dr. Isadore Dyer.

University of Colorado.—An appropriation of seven hundred thousand dollars has been made by the General Education Board of the Rockefeller Foundation to the University of Colorado for the construction of a medical school and hospital.

Award of Distinguished Service Medal.—The Navy distinguished service medal has been awarded to Dr. William C. Braisted, surgeon-general, U. S. Navy, for meritorious service during the war.

BOSTON AND MASSACHUSETTS.

Week's Death Rate in Boston.—During the week ending January 1, 1921, the number of deaths reported was 229, against 253 last year, with a rate of 15.95 against 16.32 last year. There were 39 deaths under one year of age against 39 last year.

The number of cases of principal reportable diseases were: Diphtheria, 70; whooping cough, 25; scarlet fever, 42; measles, 41; tuberculosis, 30.

Included in the above were the following cases of non-residents: Diphtheria, 7; whooping cough, 1; scarlet fever, 5; tuberculosis, 4.

Total deaths from these diseases were: Diphtheria, 5; whooping cough, 1; scarlet fever, 4; measles, 2; tuberculosis, 12.

Included in the above were the following cases of non-residents: Scarlet fever, 1; tuberculosis, 2.

Mortality Rate of Boston.—It has been estimated from figures issued by the Health Department that the death rate in Boston will be lower than for the preceding year. During the past eleven months, there have been 10,619 deaths in the city, and it is expected that the number of deaths in December will not exceed one thousand. If this estimated figure proves to be correct, there will have been almost six hundred less deaths during the year than in 1918, when deaths caused by influenza made an unusually high mortality rate.

Baby Hygiene Association.—In order to direct more attention to problems of correct posture among the children under its care, the Baby Hygiene Association of Boston has recently arranged for coöperation with the Boston School of Physical Education. Classes are held each week at the Baby Hygiene stations, and children who show signs of postural defects are given individual and group exercises which tend to prevent stooped shoulders, narrow chests, crooked backs, and flat feet. By means of careful physical examinations, slight defects are noted by the association and corrected before they become serious enough to require hospital care and treatment. Home instruction is given by the nurses and dietitians in order to interest the mothers.

Since its organization eleven years ago, the enrollment of babies by the association has increased from a few babies to nearly nine thousand, and the annual infant mortality rate has dropped to 96.6. The association now has thirty-eight nurses and dietitians who visit the homes of all babies reported to them, to teach the value of clean clothing, fresh air, proper food, and sanitation. Conferences are held at least once a week in each of the twenty-two Baby Hygiene stations. The babies are weighted and their gain or loss recorded. Approximately eight thousand mothers visit the stations. There are still many mothers and babies who are not being reached by the association. Not more than eight thousand babies can be cared for by the association each week with its present equipment. There are at least six localities in the city which need branch stations, which can not be opened unless the funds of the association can be increased.

NEW ENGLAND NOTES.

Dissolution of the Italian War Relief Fund.—The Italian War Relief Fund of America, which has had its headquarters in Boston, has been dissolved. The Committee has expressed its appreciation of the generosity of its contributors, and rendered the following account of its activities:

"The Fund was started in 1915, shortly after

the entrance of Italy into the war, for the purpose of aiding the families of Italian Reservists called to the colors. Presently, however, it enlarged its scope, and devoted itself also to sending across the water surgical dressings, woolen goods, food and money for the relief of the wounded, of the refugees from invaded provinces, of widows and orphans. Means were obtained by direct appeal and by lectures, concerts, exhibitions, sales and garden parties. In all, the committee shipped 1300 cases of woolen goods and collected in money $332,536.27. The workshop where dressings and clothes were prepared was for years a place of intense activity. Donors may be assured that their gifts have gone unimpaired to the alleviation of the keenest suffering; their contributions have been received by the Italians with touching appreciation, and have been potent in maintaining friendship between two nations.

"Aid has been widely distributed in Italy, for purposes too varied for brief enumeration. Among them may be mentioned the care and rehabilitation of blinded and mutilated soldiers; relief of the families of soldiers and sailors; the housing, nourishment and instruction of war orphans; assistance to officers' widows; the care of sickly children; the purchase of cattle for farmers in the devastated regions; the Italian Red Cross. Individual cases of distress in great numbers have been discovered and dealt with. Three of the largest single items are appropriations, in round numbers, of $53,000 for refugees; of $40,000 for the equipment of a part of the hospital at Porta Furba for tubercular returned prisoners; of $18,000 for construction in the evacuated Provinces. The rate of exchange has increased manifold the efficacy of each dollar.

"In addition to its own collections, above stated, the central committee has, by the organization of branches in various parts of the country, from Maine to California, stimulated the contribution of large donations of goods and money.

"Confident that the charity of sympathizers will not cease with the dissolution of the Fund, the Committee takes pleasure in announcing that gifts may be sent henceforth, either to Pasquale Galassi, 382 Boylston street, Boston, or directly to Comm. H. Nelson Gay, Palazzo Orsini, Rome."

FRENCH ORPHANAGE FUND.—The New England branch of the French Orphanage Fund has acknowledged contributions to the total amount of $625,376.09.

CAMPAIGN FOR HOSPITAL IN PORTSMOUTH, N. H.—On December 1, the citizens of Portsmouth, N. H., and a number of surrounding towns will begin a campaign to raise by popular subscriptions a fund with which to provide a modern general hospital with adequate equipment. Three hundred thousand dollars will be spent in rebuilding one part of the present hospital, in remodeling the remainder of the structure, and in erecting a large addition. One hundred thousand dollars has been pledged by one of the citizens of Portsmouth, and a fifty thousand bequest for a modern surgical department will be made available through the raising of one hundred and fifty thousand dollars. The new hospital is urgently needed, for, with a bed capacity of thirty-two, the present hospital has been obliged to maintain a daily average of thirty-nine beds by converting the reception room into a small ward and at times by placing patients at the ends of corridors. The new institution will have a bed capacity of seventy-five, and in times of epidemics and other emergencies, it can accommodate more than one hundred without serious overcrowding.

"FRIENDS OF POLAND" FUND.—Contributions to the "Friends of Poland" fund have reached a total amount of $148,976.17.

RECENT DEATHS.

DR. WALTER SYDNEY JOHNSON of Los Angeles, Calif., a Fellow of the Massachusetts Medical Society, died in that city September 17, 1920, aged 49. He was a graduate of Harvard Medical School in 1898, and had been Professor of Obstetrics in the College of Physicians and Surgeons, Los Angeles, for eight years.

DR. SAMUEL THOMAS DAVIS, a Fellow of the Massachusetts Medical Society, died at his home at Vineyard Haven, April 18, 1919, aged 63 years. He was a graduate of the Bellevue Hospital Medical College in 1878, and joined the Massachusetts Medical Society from Orleans in 1880.

DR. JAMES HENRY GRANT, a Fellow of the Massachusetts Medical Society, died at his home in Lynn, December 28, 1920, aged 70 years. Dr. Grant was born in Ireland. He was a graduate of the Bellevue Hospital Medical College in 1883 and had been a member of the state society since 1895. He was a member also of the Lynn Medical Fraternity. Dr. Grant assisted in the founding of the Union Hospital and the establishment of the Nurses' Home; he was superintendent of the Union Hospital for 12 years. His widow, two sisters and three brothers survive him.

DR. HOWARD EDWIN SETTLE, aged 29, died Dec. 20, 1920, at the Parker Hill Hospital, from appendicitis. Dr. Settle was a member of the Massachusetts Medical Society and a Fellow of the American Medical Association.

DR. WILLIS P. CRAIG died at Walpole, N. H., on Dec. 28, 1920. Dr. Craig served throughout the war as a member of the Medical Corps stationed at Camp Dix, New Jersey. He is survived by his widow and two children.

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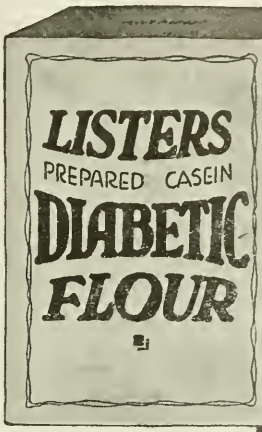

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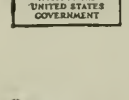

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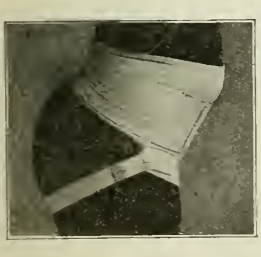

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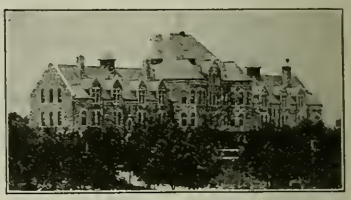

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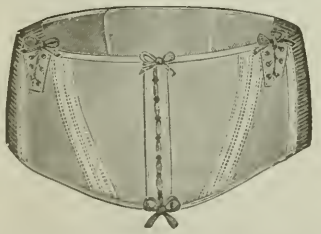

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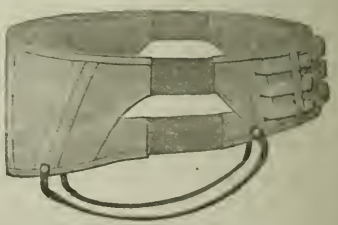

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